

半密型WPI馬達 (NEMA)

MODEL : AMHG

STANDARD 3-PHASE HIGH EFFICIENCY INDUCTION MOTORS
MEDIUM VOLTAGE SQUIRREL CAGE
FRAME SIZE (SS) 447 ~ 449 T & TS
FRAME SIZE (SG) 5009C ~ 5813C



DWG NO.

3A057H824E

REV. 05

		SPECIFICATION TABLE	MODEL
		3-PHASE HIGH EFFICIENCY INDUCTION MOTORS MEDIUM VOLTAGE SQUIRREL CAGE	AMHG
ITEM		STANDARD SPECIFICATION	
RATING	KIND OF MOTOR	SQUIRREL-CAGE INDUCTION MOTOR (SCIM)	
	DESIGN STANDARD	NEMA MG-1	
	VOLTAGE	2300/4000V, 4160V	
	FREQUENCY	60Hz	
	OUTPUT RANGE	100 ~ 2000HP	
	R.P.M. (SYN.)	3600 ~ 900R.P.M. (2 ~ 8 POLE)	
	TIME DUTY	CONTINUOUS, S.F. 1.15 (S1, MCR)	
	FRAME SIZE (SS)	447 ~ 449 T & TS	
	FRAME SIZE (SG)	5009C ~ 5813C	
	PROTECTION ENCLOSURE	WEATHER PROTECTED TYPE I ENCLOSURE (IP23)	
	COOLING METHOD	SELF VENTILATED, INTERIOR COOLING (IC 01)	
	MOUNTING	HORIZONTAL FOOT MOUNTING F-1 (IM 1001), HOWEVER, F-1, F-2 ARE CHANGEABLE	
APPLICATION	POWER CONDITIONS	VOLTAGE : $\pm 10\%$, FREQUENCY $\pm 5\%$, AND 10% MAX. OF COMBINED VOLTAGE AND FREQUENCY	
	ENVIRONMENT CONDITIONS	PLACE: INDOOR, NON-HAZARDOUS AMBIENT TEMPERATURE : -20 ~ 40°C RELATIVE HUMIDITY : LESS THAN 90% RH (NON-CONDENSATION) ALTITUDE : LESS THAN 3,300 FT	
	OPERATING CONDITIONS	BELT SERVICE, HOWEVER ALL 2 POLE MOTORS COUPLE SERVICE IS THE WAY	
	DIRECTION OF ROTATION	F#447~449: BI-DIRECTIONAL FOR 2P, 4P,6P and 8P. F#5007~5813: COUNTER CLOCK WISE FACING DRIVE END(2P). BI-DIRECTIONAL FOR 4P,6P and 8P.	
	METHOD OF STARTING	ACROSS THE LINE OR 80% REDUCED VOLTAGE STARTING	
PERFORMANCE	TEST PROCEDURE	THE MEASUREMENT OF STARTING PERFORMANCE SHOULD REFER TO METHOD B AND FULL VOLTAGE OF ANSI/IEEE 112-2004 WHEN UNDER 300HP. THE MEASUREMENT OF STARTING PERFORMANCE SHOULD REFER TO METHOD E · F OF ANSI/IEEE 112-2004 WHEN ABOVE 300HP/REDUCED VOLTAGE.	
	TYPICAL PERFORMANCE	AS DWG NO. 3A057H827E	
	TEMPERATURE RISE	NOT TO EXCEED 105°C RISE BY RESISTANCE METHOD AT S.F. 1.15; 80°C RISE AT S.F. 1.0	
	OVER SPEED	200HP and smaller: 150% Syn. RPM for 2 Minutes (8P) 201HP and larger: 120% Syn. RPM for 2 Minutes (2P); 125% Syn. RPM for 2 Minutes (4P+)	
	OVER TORQUE	160% RATED TORQUE FOR 15 SEC	

PERFORMANCE DATA

3-PHASE HIGH EFFICIENCY INDUCTION MOTORS
MEDIUM VOLTAGE SQUIRREL CAGE

MODEL

AMHG

2300V 60Hz

WPI, NEMA DESIGN B, CLASS F, 40°C AMBIENT
CONTINUOUS DUTY 1.15 S.F. 2300/4000V, 4160V, 3-PHASE, 60HZ
2P

TYPICAL PERFORMANCE

(2300V)

OUTPUT		FULL	FRAME	EFFICIENCY(%)			POWER FACTOR			CURRENT			TORQUE				ROTOR	MAX. LOAD	APPROX.	
HP	(kW)	LOAD	SIZE	FULL		3/4	1/2	FULL	3/4	1/2	FULL	LOCKED	NEMA	FULL	LOCKED	PULL	BREAK	WR ²	WR ²	WEIGHT
		RPM	(SS)	NOM.	MIN.	NOM.	NOM.	%	%	%	A	A	LETTER	LOAD	ROTOR	UP	DOWN			
100	75	3564	447TS	92.0	90.6	91.8	90.6	87.2	84.9	78.0	23	158	G	147	100	95	215	17	95	1760
125	90	3563	447TS	93.1	91.8	92.9	91.7	88.4	87.0	81.7	28	198	G	184	100	95	210	20	107	1800
150	110	3563	447TS	93.1	91.8	92.9	91.7	88.0	85.7	79.2	34	237	G	221	100	95	210	21	130	1870
200	150	3564	449TS	93.7	92.5	93.5	92.3	87.4	86.3	81.6	46	316	G	295	110	105	200	26	172	1900
250	185	3564	449TS	94.5	93.6	94.3	93.1	89.3	88.0	82.1	55	395	G	370	110	105	200	29	208	2020
300	220	3562	449TS	94.5	93.6	94.3	93.1	89.1	87.8	83.2	67	474	G	444	100	95	200	31	243	2100
350	260	3578	5009A	94.5	93.6	94.3	93.1	88.1	86.2	79.7	79	554	G	514	105	100	205	47	279	3580
400	300	3577	5009A	94.5	93.6	94.3	93.1	87.9	86.6	81.4	90	633	G	587	105	100	205	51	314	3700
450	340	3576	5009A	94.5	93.6	94.3	93.1	87.0	85.6	80.2	102	712	G	661	95	90	200	51	350	3800
500	375	3577	5011A	94.5	93.6	94.3	93.1	89.2	87.9	82.8	111	791	G	734	105	100	200	58	386	3900
600	450	3575	5011A	95.0	94.1	94.4	93.2	89.2	88.7	84.6	133	949	G	882	90	85	200	62	445	4000
700	520	3576	5011A	95.0	94.1	94.5	93.3	89.6	88.7	83.6	154	1107	G	1028	100	95	200	69	504	4200
800	600	3575	5011A	95.0	94.1	94.6	93.4	88.6	87.5	83.1	178	1265	G	1176	95	90	200	77	563	4400
900	670	3574	5012A	95.0	94.1	94.7	93.5	90.3	90.1	87.1	196	1423	G	1322	95	90	200	84	617	4600
1000	750	3575	5012A	95.0	94.1	94.8	93.6	88.5	88.0	84.0	223	1581	G	1469	100	95	200	87	670	4730
1250	930	3575	5810A	95.4	94.5	94.9	93.7	88.5	87.2	82.7	277	1977	G	1837	110	105	200	145	788	5740

NOTE :

1. The above are typical values based on test.
2. Test method : a. The measurement of starting performance should refer to of method B and full voltage of ANSI/IEEE standard 112 when under 300HP.
 b. The measurement of starting performance should refer to method E 、 F of ANSI/IEEE 112 when above 300HP/reduced voltage.
 c. According to plant capacity choice suitable.

WPI, NEMA DESIGN B, CLASS F, 40°C AMBIENT
CONTINUOUS DUTY 1.15 S.F. 2300/4000V, 4160V, 3-PHASE, 60HZ
4P

TYPICAL PERFORMANCE

(2300V)

OUTPUT		FULL	FRAME	EFFICIENCY(%)			POWER FACTOR			CURRENT			TORQUE				ROTOR	MAX. LOAD	APPROX.	
HP	(kW)	LOAD RPM	SIZE (SS) (SG)	FULL LOAD		3/4	1/2	FULL	3/4	1/2	FULL	LOCKED	NEMA	FULL	LOCKED	PULL	BREAK	WR ² lb-ft ²	WR ² lb-ft ²	WEIGHT LBS
				NOM.	MIN.	NOM.	NOM.	%	%	%	LOAD	ROTOR	CODE	LOAD	ROTOR	UP	DOWN			
100	75	1781	447T	93.7	92.5	93.2	92.1	82.5	78.2	68.0	24	158	G	295	115	110	215	42	445	2050
125	90	1779	447T	94.2	93.1	93.7	92.6	80.5	75.3	64.0	31	198	G	369	115	110	215	42	528	2100
150	110	1779	449T	94.8	93.9	94.3	93.2	83.9	80.7	71.7	35	237	G	443	115	110	205	53	629	2360
200	150	1779	449T	94.9	94.0	94.4	93.3	82.3	75.0	67.9	48	316	G	591	105	100	215	59	836	2380
250	185	1779	449T	95.0	94.1	94.5	93.4	82.2	77.6	67.3	60	395	G	738	115	110	215	63	1,008	2490
300	220	1775	449T	95.0	94.1	94.5	93.4	83.8	80.2	72.0	71	474	G	888	110	105	200	63	1,180	2550
350	260	1782	5009C	95.0	94.1	94.5	93.4	84.3	81.5	73.5	82	554	G	1032	115	110	200	106	1,369	3330
400	300	1782	5009C	95.0	94.1	94.5	93.4	84.0	81.1	73.1	94	633	G	1179	115	110	200	113	1,553	3420
450	340	1782	5009C	95.0	94.1	94.5	93.4	84.1	81.2	73.2	105	712	G	1327	110	105	200	123	1,737	3520
500	375	1782	5009C	95.0	94.1	94.5	93.4	84.8	82.2	74.6	116	791	G	1474	110	105	200	141	1,891	3720
600	450	1782	5011C	95.4	94.5	94.6	93.5	85.5	83.3	76.3	138	949	G	1768	110	105	200	175	2,211	3770
700	520	1783	5011C	95.4	94.5	94.7	93.6	85.7	83.6	76.7	160	1107	G	2062	110	105	200	202	2,507	4100
800	600	1782	5012C	95.4	94.5	94.8	93.7	85.9	84.2	77.9	183	1265	G	2358	125	120	200	219	2,827	4300
900	670	1783	5012C	95.4	94.5	94.9	93.8	85.5	83.4	76.4	207	1423	G	2652	125	120	200	230	3,105	4400
1000	750	1784	5810C	95.5	94.6	95.0	93.9	87.9	85.8	80.1	223	1581	G	2945	90	85	205	379	3,407	6890
1250	930	1785	5811C	95.8	95.0	95.1	94.0	86.1	83.6	76.1	284	1977	G	3679	105	100	205	398	4,065	7070
1500	1120	1785	5812C	95.8	95.0	95.2	94.1	86.7	84.5	77.6	338	2372	G	4414	105	100	200	478	4,717	7790
1750	1320	1786	5813C	95.8	95.0	95.3	94.2	87.1	84.5	77.1	393	2768	G	5147	100	95	215	528	5,357	8390
2000	1500	1784	5813C	95.9	95.1	95.4	94.3	86.4	84.4	77.6	452	3163	G	5889	100	95	210	528	5,908	8400

NOTE :

1. The above are typical values based on test.
2. Test method : a. The measurement of starting performance should refer to of method B and full voltage of ANSI/IEEE standard 112 when under 300HP.
b. The measurement of starting performance should refer to method E 、 F of ANSI/IEEE 112 when above 300HP/reduced voltage.
c. According to plant capacity choice suitable.

WPI, NEMA DESIGN B, CLASS F, 40°C AMBIENT
CONTINUOUS DUTY 1.15 S.F. 2300/4000V, 4160V, 3-PHASE, 60HZ
6P

TYPICAL PERFORMANCE

(2300V)

OUTPUT		FULL LOAD RPM	FRAME NO. SIZE (SG)	EFFICIENCY(%)			POWER FACTOR			CURRENT			TORQUE				ROTOR WR ² lb-ft ²	MAX. LOAD WR ² lb-ft ²	APPROX. WEIGHT LBS	
HP	(kW)			NOM.	3/4 LOAD NOM.	1/2 LOAD NOM.	FULL LOAD %	3/4 LOAD %	1/2 LOAD %	FULL LOAD A	LOCKED ROTOR A	NEMA CODE LETTER	FULL LOAD lb-ft	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK DOWN %FLT				
																				MIN.
100	75	1185	447T	94.6	93.7	94.3	92.8	78.1	72.9	61.8	25	158	G	443	110	105	200	54	1,185	1920
125	90	1185	449T	94.7	93.8	94.4	92.8	78.9	74.1	63.3	31	198	G	554	105	100	200	60	1,405	2120
150	110	1185	449T	94.8	93.9	94.5	93.4	77.9	72.8	62.1	38	237	G	665	115	110	200	64	1,689	2180
200	150	1185	449T	94.9	94.0	94.6	93.4	77.9	72.2	60.0	51	316	G	887	125	120	210	69	2,252	2270
250	185	1182	449T	95.0	94.1	94.7	93.9	78.4	74.7	65.3	63	395	G	1111	115	110	200	74	2,726	2340
300	220	1182	449T	95.0	94.1	94.7	93.9	77.7	74.6	65.1	76	474	G	1336	105	100	200	78	3,188	2490
350	260	1187	5009C	95.0	94.1	94.7	93.9	76.5	70.9	59.5	90	554	G	1549	115	110	210	152	3,710	3770
400	300	1186	5009C	95.1	94.2	94.8	94.0	76.0	70.5	59.0	104	633	G	1772	120	115	200	159	4,219	3850
450	340	1186	5011C	95.2	94.3	94.9	94.1	75.0	69.4	58.0	118	712	G	1993	110	105	200	176	4,723	3885
500	375	1186	5011C	95.3	94.4	95.0	94.2	77.0	72.0	61.0	128	791	G	2215	120	115	200	194	5,149	3920
600	450	1186	5011C	95.4	94.5	95.1	94.3	77.0	72.2	61.5	153	949	G	2658	120	115	200	221	6,056	4250
700	520	1187	5012C	95.5	94.6	95.2	94.4	77.3	72.4	61.4	178	1107	G	3098	115	110	200	256	6,879	4650
800	600	1187	5810C	95.6	94.8	95.3	94.5	81.0	77.4	68.4	193	1265	G	3540	120	115	200	388	7,792	5940
900	670	1186	5810C	95.7	94.9	95.4	94.6	81.5	78.8	70.7	216	1423	G	3983	115	110	200	427	8,580	6230
1000	750	1187	5811C	95.8	95.0	95.5	94.7	82.3	79.8	72.0	238	1581	G	4426	120	115	200	530	9,451	6980
1250	930	1187	5812C	95.9	95.1	95.6	94.8	82.9	79.3	71.2	294	1977	G	5532	110	105	200	633	11,353	7660

NOTE :

1. The above are typical values based on test.
2. Test method : a. The measurement of starting performance should refer to of method B and full voltage of ANSI/IEEE standard 112 when under 300HP.
b. The measurement of starting performance should refer to method E · F of ANSI/IEEE 112 when above 300HP/reduced voltage.
c. According to plant capacity choice suitable.

WPI, NEMA DESIGN B, CLASS F, 40°C AMBIENT
CONTINUOUS DUTY 1.15 S.F. 2300/4000V, 4160V, 3-PHASE, 60HZ
8P

TYPICAL PERFORMANCE

(2300V)

OUTPUT		FULL	FRAME	EFFICIENCY(%)			POWER FACTOR			CURRENT			TORQUE				ROTOR	MAX. LOAD	APPROX.	
HP	(kW)	LOAD RPM	NO. SIZE (SG)	FULL LOAD		3/4	1/2	FULL	3/4	1/2	FULL	LOCKED	NEMA	FULL	LOCKED	PULL	BREAK	WR ² lb-ft ²	WR ² lb-ft ²	WEIGHT LBS
				NOM.	MIN.	NOM.	NOM.	%	%	%	A	A	LETTER	LOAD	ROTOR	UP	DOWN			
100	75	889	447T	93.2	92.0	93.1	91.5	74.9	68.3	55.4	27	158	G	590	110	105	220	87	2382	2310
125	90	890	449T	93.3	92.1	93.2	92.0	77.0	71.4	59.3	33	198	G	738	115	110	210	101	2827	2530
150	110	888	449T	93.4	92.2	93.3	92.4	75.7	70.2	59.3	40	237	G	885	110	105	200	106	3401	3260
200	150	889	5009C	93.5	92.3	93.4	92.5	73.0	66.4	54.0	55	316	G	1182	115	110	200	181	4533	3550
250	185	889	5009C	93.6	92.4	93.5	92.6	75.5	70.0	58.7	66	395	G	1477	105	100	200	234	5493	3990
300	220	890	5011C	93.7	92.5	93.6	92.7	75.5	70.0	58.3	79	474	G	1771	105	100	200	281	6441	4380
350	260	890	5011C	93.8	92.7	93.7	92.8	75.0	69.2	57.5	93	554	G	2066	110	105	200	319	7502	4710
400	300	890	5012C	93.9	92.8	93.8	92.9	73.5	67.3	55.5	109	633	G	2361	115	110	200	329	8538	4820
450	340	891	5810C	94.0	92.9	93.9	93.0	78.5	74.1	63.8	114	712	G	2653	100	95	200	607	9563	6160
500	375	891	5810C	94.1	93.0	94.0	93.1	77.7	72.7	61.7	128	791	G	2948	110	105	200	658	10452	6450
600	450	891	5810C	94.2	93.1	94.1	93.2	78.0	73.2	62.5	153	949	G	3537	110	105	200	689	12307	6600
700	520	891	5811C	94.3	93.2	94.2	93.3	78.0	73.4	62.5	178	1107	G	4127	110	105	200	741	14007	6880
800	600	890	5811C	94.4	93.4	94.3	93.4	79.0	75.3	65.6	201	1265	G	4722	105	100	200	792	15903	7100
900	670	890	5812C	94.5	93.5	94.4	93.5	79.1	75.4	65.8	225	1423	G	5312	105	100	200	895	17527	7700

NOTE :

1. The above are typical values based on test.
2. Test method : a. The measurement of starting performance should refer to of method B and full voltage of ANSI/IEEE standard 112 when under 300HP.
b. The measurement of starting performance should refer to method E、F of ANSI/IEEE 112 when above 300HP/reduced voltage.
c. According to plant capacity choice suitable.